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PATENT
Attorney Docket No.: NPSTR 00101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Anticipated Group Art Unit: 2171
Fanning et al.	Anticipated Examiner: Coby, F
Serial No.:	**PRELIMINARY AMENDMENT**
Filed: Herewith	
For: **REAL-TIME SEARCH ENGINE**	260 Sheridan Avenue, Suite 420 Palo Alto, California 94306 (650) 833-0160

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

AMENDMENTS

IN THE DRAWINGS:

Please substitute the attached four sheets of formal drawings, including Figures 1-4, for the original drawing sheets.

Clean Version of Amendments to the Specification:

On page 1, line 8, please insert the following heading and paragraph:

RELATED APPLICATIONS:

This Patent Application is a continuation of co-pending U.S. Patent Application Ser. No. 09/464,653, filed on December 15, 1999 and entitled REAL-TIME SEARCH ENGINE.

Clean version of Amended Claims

2. Cancelled

3. Cancelled

4. Cancelled

5. Cancelled

6. Cancelled

7. Cancelled

8. Cancelled

9. Cancelled

10. Cancelled

11. Cancelled

12. Cancelled

13. Cancelled

14. Cancelled

15. Cancelled

16. Cancelled

17. Cancelled

18. Cancelled

19. (New) A file sharing network for sharing files among a plurality of servers comprising:

a. a search engine comprising a data object description table;

b. a plurality of servers including a first server defined according to a first server identifier, the first server comprising a first data object defined according to a first data object description; and

c. a communication link coupling the search engine to the first server, wherein the first server is configured to transmit the first data object description to the search engine, and wherein the search engine is configured to correlate the first data object description to the first server identifier within the data object description table.

20. (New) The file sharing network according to Claim 19 wherein the first server is configured to upload the first data object description to the search engine during a log-in process of the first server with the search engine, and wherein the search engine is further configured to store the first data object description in the data object description table in a relationship with the first server identifier during the log-in process.

21. (New) The file sharing network according to Claim 20 further comprising:

a. a second data object description stored within the data object description table in correlation with a second server identifier, wherein the second server identifier describes a second server and the second data object description describes a second data object; and

b. a first data object request stored within the search engine, wherein the first data object request was received from the first server, wherein the first data object request is for the second data object.

22. (New) The file sharing network according to Claim 21 wherein the search engine is configured to transmit the second server identifier to the first server in response to the first data object request.

23. (New) The file sharing network according to Claim 22 wherein the second server is configured to transmit the second data object to the first server upon a valid request by the first server.

24. (New) The file sharing network according to Claim 23 wherein the first server is configured to notify the search engine that a download of the second data object is complete.

25. (New) The file sharing network according to Claim 23 wherein the second server is configured to notify the search engine that the download of the second data object is complete.

26. (New) The file sharing network according to Claim 24 wherein the search engine is configured to correlate the second data object description to the first server identifier within the data object description table when the download of the second data object is complete.

27. (New) The file sharing network according to Claim 25 wherein the search engine is configured to correlate, within the data object description table, the second data object description to the first server identifier when the download of the second data object is complete.

28. (New) The file sharing network according to Claim 20 wherein the first server identifier is selected from a group consisting of a first internet protocol address, a first quantity of simultaneous connections that can be sustained by the first server, a reliability rating of the first server and a server name.

29. (New) The file sharing network according to Claim 20 wherein the first data object description is selected from a group consisting of a title of the first data object, a size of the first data object, a type of the first data object, a text associated with the first data object, and a creator of the first data object.

30. (New) The file sharing network according to Claim 20 wherein the first server is further configured to detect when the first data object is removed from a predetermined file location and to notify the search engine of the removal.

31. (New) The file sharing network of Claim 20 wherein the search engine is configured to periodically poll the first server to determine if any data objects have been removed from a predetermined file location within the first server.

32. (New) The file sharing network according to Claim 30 wherein the search engine is configured to purge the relationship between the first data object description and the first server within the data object description table when the first server notifies the search engine of a removal of the first data object.

33. (New) The file sharing network according to Claim 31 wherein the search engine is configured to purge the relationship between the first data object description and the first server within the data object description table when the search engine determines that the first data object has been removed from the predetermined file location within the first server.

34. (New) The file sharing network according to Claim 20 wherein the search engine is configured to send a periodic ping message between the search engine and the first server, and wherein the first server is configured to respond to the ping message.

35. (New) The file sharing network according to Claim 34 wherein the search engine is configured to purge the relationship between the first server identifier and the first data object description within the data object description table when the first server fails to respond to the ping message within a predetermined time.

36. (New) The file sharing network according to Claim 20 wherein the first server is configured to send a periodic ping message to the search engine following the log-in process.

37. (New) The file sharing network according to Claim 36 wherein the search engine is configured to purge the relationship between the first server identifier and the first data object description within the data object description table when the first server fails to send a ping message within a predetermined time.

38. (New) The file sharing network according to Claim 20 wherein the first server identifier comprises an IP address for accessing the first server over the internet.

39. (New) The file sharing network according to Claim 22 wherein the second server identifier defines a server from among a first set of potential server identifiers related to the second data object in the data object description table, wherein the search engine is configured to transmit, in response to the first data object request, the first set of potential server identifiers representing a first set of potential servers capable of transmitting the second data object to the first server, and wherein the first server is configured to select an optimal data source from which to receive the first data object from among a first set of potential servers, wherein a selection of the optimal data source is based upon a comparison of operational parameters respectively associated with each server among the first set of potential servers.

40. (New) The file sharing network according to Claim 39 wherein the operational parameters are selected from a group consisting of roundtrip response time between the first server and a potential server, internet connection line speed (bandwidth) of a potential server, a reliability of a potential provider server, a number of requests already queued to a potential server, and a size of a file requested for downloading.

41. (New) The file sharing network according to Claim 23 wherein the second server is configured to transmit data files to multiple servers in a time-multiplexed format.

42. (New) The file sharing network according to Claim 20 wherein the first data object is selected from a group comprising audio data, text data, video data, image data and software executable data.

Clean version of Abstract:

A search engine operates substantially in real time through instant updates by the servers on a file sharing network. A server coming on-line in the network and comprising a first data object such as an audio file, video file, executable file, or text file, is configured to upload a description, such as a song title or file name, of the first data object, to the search engine during the log-in process. The search engine comprises a data-object description table for storing and correlating various data object descriptions to respective server identifiers identifying servers currently on line that store the data objects defined by the data object descriptions. During the log-in process, the search engine is configured to correlate the identifier of the server coming on-line with a data-object description of a data object stored in the server coming on-line. A requesting server seeking a specific data file is configured to identify a data object description of the requested data file in a request transmitted to the search engine. In response to a request, the search engine is configured to download to the requesting server the server-identifiers that are stored within the data-object description table in a relationship with the data-object-description of the request. The requesting server is configured to select a source server from among the server identifiers provided by the search engine, and to download the requested data file from the select source server. A server notifies the search engine when the download is complete. The search engine is configured to update the relationships within the data-object description table to reflect that the requested file is now within the requesting server. The search engine is further configured to purge from the data-object description table any relationships between a server and a data-object or data file when that server has gone off line, or when that data file has been removed from the server.

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Marked up Version of Amendments to Specification:

On page 1, line 8, please add:

Related Applications:

This Patent Application is a continuation of co-pending U.S. Patent Application Ser. No. 09/464,653, filed on December 15, 1999 and entitled REAL-TIME SEARCH ENGINE.

Page 24 of 25 - 04/25/2002

Marked up Version of Amended Claims:

Please cancel Claims 2-18

Please add the following new claims:

19. (New) A file sharing network for sharing files among a plurality of servers comprising:

a. a search engine comprising a data object description table;

b. a plurality of servers including a first server defined according to a first server identifier, the first server comprising a first data object defined according to a first data object description; and

c. a communication link coupling the search engine to the first server, wherein the first server is configured to transmit the first data object description to the search engine, and wherein the search engine is configured to correlate the first data object description to the first server identifier within the data object description table.

20. (New) The file sharing network according to Claim 19 wherein the first server is configured to upload the first data object description to the search engine during a log-in process of the first server with the search engine, and wherein the search engine is further configured to store the first data object description in the data object description table in a relationship with the first server identifier during the log-in process.

21. (New) The file sharing network according to Claim 20 further comprising:

a. a second data object description stored within the data object description table in correlation with a second server identifier, wherein the second server identifier describes a second server and the second data object description describes a second data object; and

b. a first data object request stored within the search engine, wherein the first data object request was received from the first server, wherein the first data object request is for the second data object.

22. (New) The file sharing network according to Claim 21 wherein the search engine is configured to transmit the second server identifier to the first server in response to the first data object request.

23. (New) The file sharing network according to Claim 22 wherein the second server is configured to transmit the second data object to the first server upon a valid request by the first server.

24. (New) The file sharing network according to Claim 23 wherein the first server is configured to notify the search engine that a download of the second data object is complete.

25. (New) The file sharing network according to Claim 23 wherein the second server is configured to notify the search engine that the download of the second data object is complete.

26. (New) The file sharing network according to Claim 24 wherein the search engine is configured to correlate the second data object description to the first server identifier within the data object description table when the download of the second data object is complete.

27. (New) The file sharing network according to Claim 25 wherein the search engine is configured to correlate, within the data object description table, the second data object description to the first server identifier when the download of the second data object is complete.

28. (New) The file sharing network according to Claim 20 wherein the first server identifier is selected from a group consisting of a first internet protocol address, a first quantity of simultaneous connections that can be sustained by the first server, a reliability rating of the first server and a server name.

29. (New) The file sharing network according to Claim 20 wherein the first data object description is selected from a group consisting of a title of the first data object, a size of the first data object, a type of the first data object, a text associated with the first data object, and a creator of the first data object.

30. (New) The file sharing network according to Claim 20 wherein the first server is further configured to detect when the first data object is removed from a predetermined file location and to notify the search engine of the removal.

31. (New) The file sharing network of Claim 20 wherein the search engine is configured to periodically poll the first server to determine if any data objects have been removed from a predetermined file location within the first server.

32. (New) The file sharing network according to Claim 30 wherein the search engine is configured to purge the relationship between the first data object description and the first server within the data object description table when the first server notifies the search engine of a removal of the first data object.

33. (New) The file sharing network according to Claim 31 wherein the search engine is configured to purge the relationship between the first data object description and the first server within the data object description table when the search engine determines that the first data object has been removed from the predetermined file location within the first server.

34. (New) The file sharing network according to Claim 20 wherein the search engine is configured to send a periodic ping message between the search engine and the first server, and wherein the first server is configured to respond to the ping message.

35. (New) The file sharing network according to Claim 34 wherein the search engine is configured to purge the relationship between the first server identifier and the first data object description within the data object description table when the first server fails to respond to the ping message within a predetermined time.

36. (New) The file sharing network according to Claim 20 wherein the first server is configured to send a periodic ping message to the search engine following the log-in process.

37. (New) The file sharing network according to Claim 36 wherein the search engine is configured to purge the relationship between the first server identifier and the first data object description within the data object description table when the first server fails to send a ping message within a predetermined time.

38. (New) The file sharing network according to Claim 20 wherein the first server identifier comprises an IP address for accessing the first server over the internet.

39. (New) The file sharing network according to Claim 22 wherein the second server identifier defines a server from among a first set of potential server identifiers related to the second data object in the data object description table, wherein the search engine is configured to transmit, in response to the first data object request, the first set of potential server identifiers representing a first set of potential servers capable of transmitting the second data object to the first server, and wherein the first server is configured to select an optimal data source from which to receive the first data object from among a first set of potential servers, wherein a selection of the optimal data source is based upon a comparison of operational parameters respectively associated with each server among the first set of potential servers.

40. (New) The file sharing network according to Claim 39 wherein the operational parameters are selected from a group consisting of roundtrip response time between the first server and a potential server, internet connection line speed (bandwidth) of a potential server, a reliability of a potential provider server, a number of requests already queued to a potential server, and a size of a file requested for downloading.

41. (New) The file sharing network according to Claim 23 wherein the second server is configured to transmit data files to multiple servers in a time-multiplexed format.

42. (New) The file sharing network according to Claim 20 wherein the first data object is selected from a group comprising audio data, text data, video data, image data and software executable data.

Mark up version of the Abstract:

Please delete:

[Disclosed is described a method for creating a real-time search engine over the Internet which provides a search response containing data object descriptions and server identifiers of data objects that are currently available for transfer from a provider server directly to a recipient client in response to a recipient client search request. The method comprises the provider server connecting to a Real-time search engine through the Internet, the provider server providing the Real-time search engine with data object descriptions of data objects residing on the provider server, and the Real-time search engine indexing data object descriptions associated with the data object of the provider server, wherein the data object descriptions provided by the provider server are purged from the Real-time search engine when the provider server is disconnected from the Real-time search engine.]

And replace with:

A search engine operates substantially in real time through instant updates by the servers on a file sharing network. A server coming on-line in the network and comprising a first data object such as an audio file, video file, executable file, or text file, is configured to upload a description, such as a song title or file name, of the first data object, to the search engine during the log-in process. The search engine comprises a data-object description table for storing and correlating various data object descriptions to respective server identifiers identifying servers currently on line that store the data objects defined by the data object descriptions. During the log-in process, the search engine is configured to correlate the identifier of the server coming on-line with a data-object description of a data object stored in the server coming on-line. A requesting server seeking a specific data file is configured to identify a data object description of the requested data file in a request transmitted to the search engine. In response to a request, the search engine is configured to download to the requesting server the server-identifiers that are stored within the data-object description table in a relationship with the data-object-description of the request. The requesting server is configured to select a source server from among the server identifiers provided by the search engine, and to download the requested data file from the select source server. A server notifies the search engine when the download is complete. The search engine is configured to update the relationships within the data-object description table to reflect that the requested file is now within the requesting server. The search engine is further configured to purge from the data-object description table any relationships between a server and

a data-object or data file when that server has gone off line, or when that data file has been removed from the server.

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REMARKS

This is a Preliminary Amendment to a continuation under 37 CFR 1.53(b) of U.S. Application No. 09/464,653 to Fanning et al., entitled "Real Time Search Engine". The original Application No. 09/464,653 to Fanning et al. was issued a Notice of Allowance mailed on October 23, 2001. This is **not** a withdrawl of U.S. Patent Application No. 09/464,653.

Previous Amendments

The application attached herewith is a copy of the original application, and therefore does not show the amendments made to the parent application during the prosecution, and which therefore apply to the present application.

Numbering of Claims:

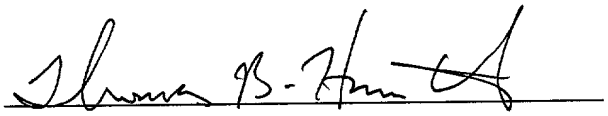
The original application 09/464,653 included Claims 1-18. By subsequent Amendment and Response, the Claims 1-18 were cancelled and replaced by Claims 19-41. The present application is a continuation of the *original* Application 09/464,653. Accordingly, the *original* independent Claim 1 is retained herein for filing purposes, and *original* claims 2-18 have been cancelled. The present preliminary amendment adds new claims 19-43.

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Applicant believes that the claims of the present application are in condition for allowance, and requests prompt allowance of same. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (650) 833-0160 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 12-19-01

By: 

Thomas B. Haverstock,
Reg. No. 32,571

Attorneys for Applicant(s)